

# GRADUATE PROGRAM Embedded and Cyber-Physical Systems

<http://mecps.uci.edu>



As cyber-physical systems grow in scale, complexity and integration levels, there is a need to move toward a science of embedded systems, addressing the foundational aspects of design. Now that engineers have a better understanding of the basics of embedded systems, it is equally important to branch out to the application of such systems. This requires addressing domain-specific issues and the scale-up in complexity introduced by what is referred to today as cyber-physical systems. They are systems-of-systems that tightly couple their cyber (i.e. computation,

communication and control), and physical components (sensing and actuation) in the context of applications such as (but not limited to): automotive and transportation, manufacturing, power distribution grid, medical and healthcare, robotics, civil infrastructure, avionics, etc. Thus, these cyber-physical systems marry knowledge from the fields of embedded systems, networking, sensors, real-time systems and control as well as domain-specific knowledge to realize systems that are of untapped complexity and scale.

# DEGREE OFFERED

Professional Master's Degree

## HIGHLIGHTS

- First professional graduate degree in cyber-physical systems
- One-year, full-time program that includes seven foundational courses and two project courses leading to a final project
- Through graduation projects, students develop integrative knowledge of systems, as well as hands-on experience in an applied domain

## RECOMMENDED BACKGROUND

Applicants are expected to hold a bachelor's degree in either computer engineering, computer science or electrical engineering. Students from other disciplines may be considered for admission if they have sufficient background in the basics of embedded systems. Applicants will be evaluated based on their prior academic record and their potential for completing graduate-level work. Preference may be given to students whose backgrounds are in one of the target application areas of cyber-physical systems. Consideration will be given to students with relevant industry experience. Applicants are encouraged to include hands-on project experience, if any, in their statement of purpose.



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### GRADUATE COORDINATOR:

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